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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33220 Roll No.

B. Tech. Examination 2022-23

(Odd Semester)

SOFTWARE ENGINEERING

Time : Three Hours] *[Maximum Marks : 60*

Note :- Attempt all questions.

SECTION – A

1. Attempt all parts of the following : $8 \times 1 = 8$

   (a) List the various characteristics of software.

   (b) What do you mean by feasibility study?

   (c) Write any two reasons to increase in the software development cost?

   (d) What do you understand by debugging?

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(e) Define extreme programming.

(f) State any four design principles for software design.

(g) Define the term software crisis.

(h) What do you mean by system testing?

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Define the term "software engineering". Explain the major differences between software engineering and other traditional engineering disciplines.

(b) List five desirable characteristics of good SRS document. Discuss the relative advantages of formal and informal specifications.

(c) What is software maintenance? Discuss the different types of software maintenance.

(d) What do you mean by term cohesion and coupling in context software design? How are the concepts of cohesion and coupling useful in arriving at good software design?

SECTION – C

Note :- Attempt all questions. Attempt any two parts from each question. 5×8=40

3. (a) Discuss the difference between functional and non-functional requirements.

(b) Why the testing is important in the software development life cycle? Explain black box and white box testing in detail.

(c) Write notes on Constructive Cost Models (COCOMO).

4. (a) What do you mean by good software design? Discuss the criteria for a software design to enhance the quality of software.

(b) Describe the role of metrics and measurement in software engineering.

(c) Illustrate SEI-Capability Maturity Model (CMM) in detail. Give five differences between ISO 9000 and CMM.

5. (a) Explain software development life cycle. Discuss various stages of the waterfall model in detail.

(b) Describe object oriented approach of software design.

(c) What are the benefits of using CASE tools? Explain in detail.

6. (a) Differentiate between validation and verification. Describe Alpha and Beta testing.

(b) Discuss spiral model with advantages and disadvantages.

(c) Discuss the following :

(i) Software quality attributes

(ii) Software reuse